

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Barker Bros Inc

#### New York Manufacturing Extension Partnership

#### Barker Brothers Implements Lean Manufacturing Practices

##### Client Profile:

Barker Brothers, a family owned and managed company, produces a wide range of polishing buffs used for finishing metal and wood products. The company manufactures three types of buffing wheels: bias cut cloth, full disc buffs, and non-woven abrasive wheels. Each buff is manufactured to the customer's specifications. Founded in 1911 and located in Ridgewood, New York, Barker Brothers has approximately 100 employees.

##### Situation:

The buff industry is experiencing a reduction in demand due to increased use of plastics in the automotive industry and a consolidation of the number of suppliers. Industry consolidation has positioned Barker Brothers as the second largest buff manufacturer, but significantly smaller than the industry leader. Competition has further intensified due to off-shore production. To compete in this new market, the company has focused on producing specialty buffing wheels designed to address the needs of its customers--a market not driven by economies of scale but by customer needs and service. To improve its competitiveness in the specialty buff market, Barker Brothers recognized the need to improve process flows and productivity. The company wanted to implement techniques to improve reaction time to market demands and increase productivity for bias cut buffs, which represent approximately 50 percent of sales. Barker Brothers reached out to the Industrial and Technology Assistance Corporation (ITAC), a NIST MEP network affiliate and a division of the New York Manufacturing Extension Partnership, to analyze sales and to identify opportunities for improvement.

##### Solution:

First, ITAC identified several areas where lean manufacturing techniques could assist Barker Brothers.

An analysis of customer demand and the underlying material requirements contributed to the identification of areas of opportunity for improving the process as well as computer database information. Since bias buffs are made to customer specifications, ITAC completed an analysis, which led to the selection of fabric and slit widths with high demand and multiple product uses. As a result, ITAC developed a "buffer" inventory concept for high-demand widths. By increasing the availability of slit widths, Barker Brothers reduced lead time and improved slitting operation productivity. An implementation effort for this major initiative is in the planning stage. Organizational changes that will affect implementation are in the final planning stages.

Next, ITAC established kanbans for metal rings and plates. Implementation led to reductions in the inventory levels of the components, ensured that the required rings and plates were available, and provided a paperless system whereby production was triggered by the empty containers returned to the ring and plate department. Now rings for the key winding operation are more readily available, ring and plate inventories have been reduced, and the cost of purchasing steel used in the production process has also been reduced.

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ITAC recognized that Barker Brothers' highest volume bias buff was produced in a unique process and proposed a plan to modify the manufacturing process. ITAC introduced cellular manufacturing techniques used to reorganize the procedures. The changes improved product flow while maintaining a production rate consistent with demand. The manufacturing cell for the high-volume buff has been implemented, resulting in reductions in work-in-process inventory investment without adversely impacting customer service. Reduction in batching has also freed floor space.

After uncovering deficiencies in Barker Brothers' bills of material structure, ITAC suggested modifications that document important production data related to actual slit widths used to produce buffs. Implementation will improve the buffer replenishment process. Finally, ITAC reviewed order entry procedures (which were delaying the flow of customer orders), the release of work to production, and invoicing customers, and discovered batching at all stages of the process. Barker Brothers implemented ITAC's recommendations to reduce or eliminate batching, which improved the quality and flow of the order entry process. ITAC also modified computer systems to further enhance the flow of customer orders from entry to release.

### Results:

- \* Reduced inventory levels for rings and plates by approximately 23 percent.
- \* Reduced work-in-process inventory by 50 percent.
- \* Reduced lead time.

### Testimonial:

"Working together with the Industrial and Technology Assistance Corporation to improve process flows and productivity has been a valuable and eye-opening experience. With the expertise of the people at ITAC, we were able to identify several bottlenecks in our production process, and are currently implementing the changes they have suggested. The benefits of the changes are already being realized both on the floor and on the bottom line. We look forward to future opportunities to work with ITAC, as the need for additional improvements becomes apparent."

Tommy Vissichelli, Vice President of Manufacturing